

CVR 200 COMPACT, LIGHTWEIGHT, ONE-PIECE BETACAM SP CAMCORDER

General:

The CVR-200 combines an advanced 3-CCD chip camera and Betacam SP VTR in a single compact unit.

The CVR-200 is lightweight, simple to operate, and features low power consumption for long operating times.

Advanced CCD imaging technology allows the camera to deliver superior picture quality for ENG particularly under adverse conditions.

The newly designed miniaturized VTR accepts both Betacam SP metal particle tape or conventional Betacam oxide tape, giving you the flexibility to match tape to your application.

The one-piece configuration makes the CVR-200 compact, lightweight and rugged enough to meet the demands of almost any ENG or field production environment.

Camera:

550-line resolution, high-sensitivity and a specially designed enhancement system deliver camera response that's optimally matched to the onboard Betacam SP VTR.

The camera's high sensitivity makes it possible to shoot in extremely low-light locations.

Clear pictures are also possible in high contrast situations by com-

pressing the high light signals with the *Dynamic Contrast Control*.

This auto knee control is on/off selectable and extends the dynamic range of the camera.

The solid-state CCD sensors in the CVR-200 are bonded directly to the prism block, forming a shock resistant, permanently aligned assembly that eliminates the need for registration adjustment.

CCD technology also eliminates lag, burn-in and microphonic noise, and is unaffected by outside magnetic or electrical interference.



Automatic Functions:

Basic automatic operational features include:

Automatic Iris Control. The iris responds quickly and automatically without overshoot.

Automatic White/Black Balance. A dual white balance memory is provided for each filter. Color temperature is memorized during white balance adjustment and displayed in the viewfinder.

Viewfinder:

The 1.5" monochrome viewfinder employs an innovative magnetic focus-type CRT to deliver resolution of 550 TV lines.

Adjustable dual edge peaking correction is provided for a crisp picture.

The viewfinder rotates and adjusts forward, back and laterally for comfortable shooting in various positions.

A large diameter viewfinder lens makes it possible for operators to see the full CRT—including the corners—even when standing back from the viewfinder.

The unit itself is compact, lightweight, consumes less power than previous models, and requires only a one second warm-up—eliminating the need for a preheat mode.

A full range of status and warning indications are displayed

- ▣ RF
- ▣ Servo
- ▣ Humid
- ▣ Slack
- ▣ Tape Remaining
- ▣ Tape End
- ▣ Battery

- ▣ Record Status
- ▣ Audio Level (Channel 1)
- ▣ Video Level (Zebra Control)
- ▣ White/Black Balance
- ▣ Filter Indicator
- ▣ Gain

VTR:

A newly designed miniaturized tape transport and drum assembly, as well as smaller, higher density circuit boards all help reduce the size of the VTR.

The one-piece configuration of the CVR-200 also eliminates the main harness connection between the VTR and the camera, which further reduces weight.

The CVR-200 accepts cassettes of up to 30 minutes in length in either metal particle or the conventional Betacam oxide tape. The Betacam SP

metal particle tape provides improvements in the luminance bandwidth, SNR, and the pulse and bar response in both the luminance and chrominance channels.

Viewfinder playback in the CVR-200 includes video (luminance or CTDM chrominance) and longitudinal audio.

A *Record Review* function is also provided. It automatically rewinds two seconds of tape and plays it back for review, stopping precisely at the previous position. Review time can be extended to up to 10 seconds if desired.

A built-in time code generator/reader automatically records SMPTE time code on a dedicated time code track. VITC can be inserted, and the insertion position can be selected by the operator.

The CVR-200 can also be locked





to an external time code—or provide time code for other machines—through the camera's external inputs and outputs.

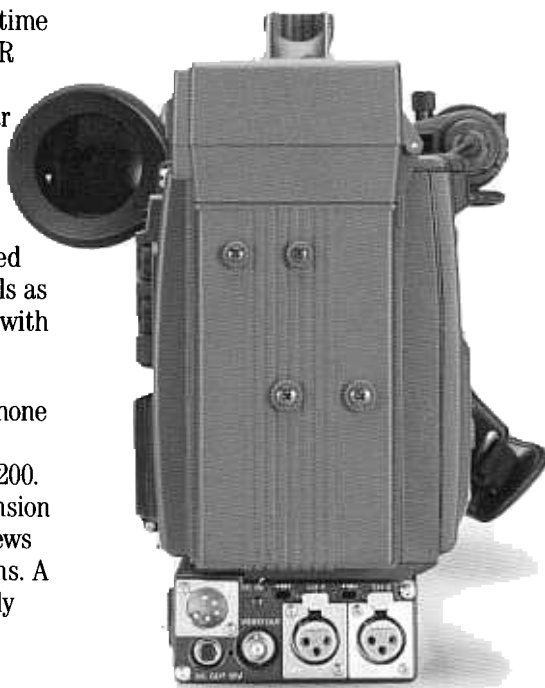
A new LCD display provides time code, user bits, tape time, and VTR status. Two channels of audio and battery status are displayed on bar graphs incorporated in the LCD.

Audio:

Four channels of audio are provided on the CVR-200: two AFM channels as well as two longitudinal channels with Dolby* Type C noise reduction.

A specially designed microphone is provided that can easily be detached from the body of the CVR-200. When used with an optional extension cable it's ideally suited for interviews and other remote mic applications. A two channel phantom power supply and dual XLR connectors provide power for two remote mics.

A built-in speaker allows the operator to monitor mixed channel audio, single channel audio, or alarm tone during recording. Separate moni-



tor level and alarm tone level controls are provided.

Operation:

The CVR-200 is well balanced and extremely easy to operate. For convenience and comfort both the shoulder pad and the viewfinder are adjustable. Controls are simplified to help avoid mistakes. The *play, rewind, fast forward, stop* and *eject* buttons are located under a safety lid on the top of the CVR-200. All keys are automatically locked during record mode.

Diagnostics:

A sophisticated diagnostics system allows the operator to select diagnostic modes and display status on the LCD display or in the viewfinder. These include *RF, Servo, Humidity, Slack, Tape End* and *Battery*.

Options and Accessories:

Optional equipment designed exclusively for the CVR-200 make it an extremely flexible camcorder for a variety of applications.

VA-500 Field Playback Unit. The VA-500 is a compact, lightweight adaptor designed to mate with the CVR-200 through a 20-pin interface. It provides full color playback along with one channel of audio (single channel or mixed). Both composite and VHF outputs are provided for microwave transmission and/or recording check on television receivers. An interface for an external TBC is also provided.

RM-P3 Remote Control Unit. For remote control of basic camera functions. Interface via a 6-pin connector.

Battery Cases. Optional auxiliary battery cases are available for either the BP-90 or for an additional NP-1A.

*Dolby is a trademark of Dolby Licensing Corporation.

Ampex has a wide selection of Betacam equipment, options and accessories that can be configured to meet your specific requirements.

Our *System and Accessories Guide* will show you how. It's full of diagrams and helpful information. You can get a copy from your Ampex sales office or Ampex dealer.

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CVR-200 Specifications (Playback on CVR-75)

		NTSC	NTSC	PAL/SECAM	PAL/SECAM
VIDEO (Component In/Out)	Bandwidth, luminance	OXIDE TAPE 30 Hz to 4.1 MHz + 0.5/ - 6.0 dB	METAL PARTICLE TAPE 30 Hz to 4.5 MHz + 0.5/ - 3.0 dB	OXIDE TAPE 25 Hz to 4.0 MHz + 0.5/ - 6.0 dB	METAL PARTICLE TAPE 25 Hz to 5.5 MHz + 0.5/ - 3.0 dB
	Chrominance, R-Y/B-Y	30 Hz to 1.5 MHz + 0.5/ - 3.0 dB	30 Hz to 1.5 MHz + 0.5/ - 3.0 dB	25 Hz to 1.5 MHz + 0.5/ - 3.0 dB	2.5 Hz to 1.5 MHz + 0.5/ - 3.0 dB
	S/N Luminance	48 dB	51 dB	46 dB	48 dB
	Chrominance	50 dB	53 dB	45 dB	48 dB
	K-factor (2T pulse)	Less than 3%	Less than 2%	Less than 3%	Less than 2%
	Chrominance/luminance Delay	Less than 20 nsec	Less than 20 nsec	Less than 20 nsec PAL Less than 50 nsec SECAM	Less than 20 nsec PAL Less than 50 nsec SECAM
	LF Linearity	Less than 3%	Less than 2%	Less than 4%	Less than 3%
AUDIO		LONGITUDINAL OXIDE TAPE	LONGITUDINAL METAL PARTICLE TAPE	AFM METAL PARTICLE TAPE	
	Frequency response	50 Hz to 15 kHz \pm 3 dB	50 Hz to 15 kHz + 1.5/ - 3 dB	20 Hz to 20 kHz + 0.5/ - 2.0 dB	
	S/N (without NR) (with NR)	50 dB (3% distortion level) 58 dB (CCIR 468-3)	54 dB (3% distortion level) 62 dB (CCIR 468-3)		
	Dynamic range	N/A	N/A	More than 80 dB	
	Distortion (1 kHz ref. level)	Less than 2%	Less than 1.5%	Less than 0.5%	
	Wow and flutter	Less than 0.15% rms	Less than 0.15% rms	N/A	
	Crosstalk	Less than -55 dB	Less than -55 dB	Less than -65 dB	
	Depth of Erasure	More than -65 dB	More than -65 dB	N/A	
	GENERAL	Tape speed Recording time Fast forward time Rewind time	11.86 cm/sec 30 min with BCT-30M Less than 9.0 min with BCT-30M Less than 5.0 min with BCT-30M		
	SIGNAL INPUTS	TC LOCK VIDEO IN (BNC) AUDIO IN CH-1/2 (XLR 3-pin) TIME CODE IN (BNC)	1.0 Vp-p, 75 ohms - 60 dB/ + 4 dB selectable, high impedance, balanced 0.5 V to 18 Vp-p, 10K ohms		
	SIGNAL OUTPUTS	TIME CODE OUT (BNC)	1.0 Vp-p, 75 ohms		
	OTHER OUTPUTS	EARPHONE OUT PLAYBACK ADAPTOR DC OUT (for wireless microphone)	Mini-jack 20-pin 4-pin		
CAMERA	Imaging device format	3 chip-2/3" CCD FIT type			
	Imaging array density	510(H) \times 492(V) NTSC, 500(H) \times 582(V) PAL			
	Optical system	F1.4 prism system			
	Built-in filters	1:3200 K, 2:5600 K + 1/4ND, 3:5600 K, 4:5600 K + 1/16ND			
	Gain select	< 0/ + 9/ + 18 dB (+ 24 dB available)			
	Lens mount	Special bayonet mount			
	Video output	1.0 Vp-p, sync negative, 75 ohms 2 outputs: TEST OUT, VTR connector			
	Horizontal resolution	550 TV lines (Center)			
	Registration	0.05% all zones (Excluding lens error)			
	Geometric distortion	Less than 1%			
VIEWFINDER	Sensitivity	2000 lux at F5.6 89.9% reflectance (NTSC) 2000 lux at F5.6 89.9% reflectance (PAL)			
	Minimum illumination	NTSC, 15 lux; PAL, 20 lux (with f1.4 lens + 18 dB gain)			
	S/N ratio	NTSC 59 dB, PAL 57 dB			
	Warm-up time	2.0 sec			
	Picture tube	1.5" monochrome BRIGHT control, CONT control, PEAKING control, AUDIO LEVEL CH-1 control, TALLY ON/OFF switch, ZEBRA ON/OFF switch, AUDIO and TAPE INDICATOR ON/OFF switch			
	Horizontal resolution	550 TV lines			
	Microphone	Sharp directional (detachable)			
	Supplied accessories	Tripod adaptor (1), extension board (1), shoulder belt (1), rain cover (1), operation and maintenance manual (1)			
	GENERAL	Power requirements DC 12V + 5.0V - 1.0			
	Power consumption	20 W (with viewfinder)			
	Operating temperature	0° C to + 40° C (+ 32° F to 104° F)			
	Humidity	Less than 85% (relative humidity)			
	Dimensions	268 mm (10 5/8") H \times 132mm (5.3") W \times 370mm (14.6") L			
	Weight	Approx. 4.7 kg (10 lb 6 oz)			
	Continuous operating time	Approx. 60 min with NP-1A			

Ampex reserves the right to make product specifications changes at any time without notice.

*The specifications given were measured by playing back CVR-200 recorded materials on standard Betacam SP VTRs.

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Reading, Berks.
VENEZUELA
782-3255
Caracas

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